

Letter to the Editor

Blastocystis hominis and Human Disease

I read with interest the article by Sheehan et al. describing the association of *Blastocystis hominis* with signs and symptoms of human disease (2). A total of five or more *B. hominis* cells was observed in 11% of their patients, while this protozoan was the only parasite in 6% of their patients. There was a significant association of *Entamoeba histolytica* with *B. hominis*.

During 1986 I examined purged stools of 276 patients with abdominal discomfort and recurrent diarrhea which lasted for 1 or more months. The stools were examined for the presence of intestinal parasites, especially *E. histolytica*, by using standard unstained wet mounts and smears stained with Quensel stain. The first portion of the stools was examined for the presence of eggs of intestinal helminths and cysts of intestinal protozoa. Bacterial analyses were performed by standard culture techniques (1).

Of the total of 276 patients, 208 (72.46%) had no intestinal parasites and 68 (27.54%) had parasites. Some of the patients had more than one parasite (Table 1). A young woman had *E. histolytica*, *B. hominis* in small number, *Entamoeba coli*, and eggs of *Taenia* spp. The most frequent parasite was *B. hominis* (14.13%), but many of the patients had this protozoan in small number (less than five cells per 40× field). Only 10 (3.62%) of the patients had more than five *B. hominis* cells per ×40 field. Four of them had other pathogens as well: two had *Salmonella typhimurium* and two had *E. histolytica*. So only six (2.17%) of the patients had *B. hominis* in large number, without other pathogens. *E. histolytica* was found in 17 (6.16%) cases, and only two of the patients had *B.*

hominis in large number as well. The association of *E. histolytica* and *B. hominis* (in any number) was significant (chi-square test, $P < 0.001$), but the number of the patients who had both *E. histolytica* and *B. hominis* in large number was too small for a reliable conclusion of their association.

LITERATURE CITED

1. Lopage, S. P., B. Rowe, B. Holmes, and R. J. Gros. 1979. Biochemical identification of Enterobacteriaceae, p. 123-141. In F. A. Skinner and D. W. Lovelock (ed.), Identification methods for microbiologists. Academic Press, Inc., New York.
2. Sheehan, D. J., B. G. Raucher, and J. C. McKittrick. 1986. Association of *Blastocystis hominis* with signs and symptoms of human disease. J. Clin. Microbiol. 24:548-550.

Zoran P. Pikula

Department of Parasitology
Institute for Microbiology "Dr. Robert Fried"
71000 Sarajevo, Yugoslavia

Author's Reply

We reported 15 different intestinal parasites in 20 of 43 patients with five or more *Blastocystis hominis* parasites per 40× field. Eleven of these twenty patients had mixed infections with three or more parasites. *Entamoeba histolytica* (11 cases) was the sole intestinal parasite noted to have a statistical association with *B. hominis* (chi-square test, $P < 0.001$). In a Yugoslavian population, Dr. Pikula reports a statistical association between these two protozoans, but only with *B. hominis* "in any number." We do not find this observation surprising when comparing two such diverse geographical regions. Many patients referred to our Parasitology Laboratory are Hispanic and, in addition, we serve a large population of Cambodian and Thai immigrants.

Babcock et al. (1) suggested that climatic conditions influenced the incidence of *B. hominis* both alone and with other parasites. These investigators reported a dramatic increase in the recovery of *B. hominis* from patients in Nepal during premonsoon months. They also observed that the recovery of *B. hominis* alone was accompanied by a clinical syndrome of diarrhea, abdominal pain, nausea, fatigue, and anorexia. We reported a similar clinical syndrome in patients with five or more *B. hominis* parasites per 40× field. These patients complained mainly of abdominal discomfort, diarrhea, flatus, and anorexia.

B. hominis is emerging as a potential pathogen, and further investigation of this ubiquitous protozoan is warranted.

LITERATURE CITED

1. Babcock, D., R. Houston, D. Kumaki, and D. Shlim. 1986. *Blastocystis hominis* in Kathmandu, Nepal. N. Engl. J. Med. 313:1419.

Daniel J. Sheehan

Division of Microbiology and Immunology
Montefiore Medical Center
Bronx, New York 10467

TABLE 1. Intestinal parasites found in association with *B. hominis* and *E. histolytica*

Intestinal parasite(s)	No. of patients
<i>Blastocystis hominis</i> in large number with:	
No other pathogens.....	6
<i>Entamoeba histolytica</i>	2
<i>Salmonella typhimurium</i>	2
<i>Blastocystis hominis</i> in small number with:	
No other pathogens.....	21
<i>Entamoeba histolytica</i>	4
<i>Entamoeba histolytica</i> + <i>Giardia lamblia</i>	1
<i>Giardia lamblia</i>	1
<i>Entamoeba histolytica</i> + <i>Entamoeba coli</i> + <i>Taenia</i> spp.	1
<i>Ascaris lumbricoides</i>	1
<i>Entamoeba histolytica</i> with:	
No other pathogens.....	6
<i>Ascaris lumbricoides</i> + <i>Enterobius vermicularis</i>	2
<i>Ascaris lumbricoides</i> + <i>Giardia lamblia</i>	1
<i>Blastocystis hominis</i>	8